

WHAT IS CLAIMED IS:

- 1 1. A nanomaterial composition of matter comprising
2 zinc; and
3 at least one metal other than zinc
4 wherein the composition of matter has an electrical conductivity
5 greater than 0.0001 mhos.cm.
- 6 2. The nanomaterial composition of matter of claim 1, wherein the
7 composition comprises aluminum.
- 8 3. The nanomaterial composition of matter of claim 1, wherein the
9 electrical conductivity is greater than 0.01 mhos.cm.
- 10 4. The nanomaterial composition of matter of claim 1, wherein the
11 nanomaterial comprises particles with an aspect ratio greater than 1.
- 12 5. The nanomaterial composition of matter of claim 1, wherein the
13 nanomaterial comprises non-spherical particles.
- 14 6. A coating comprising the nanomaterial composition of matter of claim
15 1.
- 16 7. A transparent conductive layer comprising the nanomaterial
17 composition of matter of claim 1.
- 18 8. An electrode comprising the nanomaterial composition of matter of
19 claim 1.
- 20 9. A product comprising the nanomaterial composition of matter of claim
21 1.
- 22 10. A device comprising the nanomaterial composition of matter of claim
23 1.

- 24 11. A method for preparing a composition of matter comprising
25 providing nanoparticles of a first composition comprising zinc; and
26 reacting the nanoparticles with a reagent
27 wherein the reacting creates a second composition that is different
28 from the first composition.
- 29 12. The method of claim 11, wherein the first composition comprises
30 particles with an aspect ratio greater than 1.
- 31 13. The method of claim 11, wherein the first composition further
32 comprises oxygen.
- 33 14. The method of claim 11, wherein the reagent comprises nitrogen.
- 34 15. The method of claim 11, wherein the reagent comprises a halogen.
- 35 16. The method of claim 11, wherein the reagent comprises an acid or an
36 alkali.
- 37 17. The method of claim 11, wherein the reagent comprises hydrogen.
- 38 18. The method of claim 11, wherein the reagent comprises oxygen.
- 39 19. The method of claim 11, wherein the reagent comprises carbon.
- 40 20. A product comprising the composition of matter prepared using the
41 method of claim 11.